

AMENDMENTS IN THE SPECIFICATION

Please replace the paragraph on page 5, beginning on line 4 and ending on line 9, with the following:

The contact holder, contact assemblies, contact retainer and printed circuit board are then placed in the casing as the cable is withdrawn through the cable intake 47 of the casing. A compression nut 49 is tightened to secure and seal the cable to the casing. A peripheral gasket 87 is assembled to the bottom of the insert and a gasket retainer 92, if used, is assembled to the contact holder 18. The connector is then secured to the solenoid housing by means of the retainer screw 46, as will be understood by those in the art.

Please replace the paragraph on page 6, beginning on line 9 and ending on line 12, with the following:

In FIG. 1A, a portion of the wall 20 has been cut away to illustrate more clearly the structure of the contact assembly 22. The contact assembly 22 includes a conductive band 27 of closed configuration (or solid construction) with a central opening 31 for the wire, a fixed metal blade contact (or connecting element) 28, and a threaded screw 29.

Please replace the paragraphs on page 6, beginning on line 16, and ending on page 7, line 16, with the following:

The band 27, in the illustrated embodiment, may be made of metal and has a generally rectangular outer dimension in a horizontal plane, thus providing four connected walls arranged in a rectangle and defining the central receptacle or opening 31. The band 27 is slidably received in a receptacle or recess formed in the contact holder 18 (see 62 in FIG. 1) and secured by retainer 26.

In re appln. of Riccardo Comini
Serial No. 10/749,717

The upper portion 65 of [a metal] the fixed metal blade contact 28 is received in the opening 31 of band 27 and extends above retainer 26. The band 27 is permitted to slide along the recess of the contact holder in which the band is received. The screw 29 is threadedly received in a threaded aperture in a heavier adjacent wall 30 of the band 27 so that it projects into the opening 31, engaging the blade contact 28. The contact 28 is staked or otherwise fixed to the contact holder 18. The band 27 may slide within the recess or receptacle 62 in which it is received as the screw 29 is threaded into the band 27. A stop 25 is affixed to the contact holder 18 to limit the motion, of and prevents complete removal of the screw 29.

The stripped distal end of the wire 13 fits into the opening 31 of the contact band 27 between the far wall [[25]] 21 of the band 27 and the upper portion of the fixed metal blade contact 28, so that when the screw 29 is turned into the band 27, the wall [[25]] 21 of the band 27 is moved toward and engages the wire, forcing the wire into engagement with the contact 28 and [[exert]] exerting a compressive force on the wire. This forces the contact 28 into electrical connection with the stripped end of the conductor 13 to establish electrical continuity between the wire and the blade contact 28. The other contact assemblies 23, 24 function in the same manner as described for the contact assembly 22, and each of them may have the same structure as described.

Please replace the paragraphs on page 8, beginning on line 9, and ending on page 12, line 5, with the following:

Referring now to FIG. 3, the contact holder 43 of the four-contact connector defines a lower cavity 44 opening toward the bottom of the connector for receiving [retainer member 9] gasket retainer 92. An outer casing having a generally square horizontal section and designated 42

in FIG. 3 is received over the contact holder 43. The casing 42 includes four sidewalls and a top wall, the center of which is apertured to receive a tubular guide 45 for receiving a retainer screw 46 which secures the connector to the body of the solenoid, as is conventional. The casing 42 also includes a cylindrical cable intake 47 extending to the side thereof (see FIG. 1) and having an internally threaded opening (designated 48 in FIGS. 1 and 3) for receiving a cable (similar to cable 10 but having four conductors in this embodiment and not shown in FIG. 3 for brevity) to which the connector is to be assembled. A compression nut 49 (see FIG. 1) is placed over the cable and is threadedly received within the cable intake 47 of the casing 42. An annular flexible gasket, or grommet, 50 and washer 51 may be received in the opening 48 for sealing and securing the cable to the connector housing as the compression nut 49 is tightened, again, as is known in the art.

Turning now to FIG. 6, the components of the connector are seen in exploded relation, looking at the connector with the cable 10 extending into the plane of the page. The [housing] casing 42 and the contact holder 43 are separate elements. A contact retainer 52 is received on the top of the contact holder 43 and includes four depending latches 53 which extend downwardly from the center of each side section and into the cavity 44 of the contact holder. The depending latches 53 are barbed as seen at 54 to catch beneath the center pedestal 55 of the contact holder for securing the retainer 52 to the contact holder. One of the depending latches 53 can be seen from the front or inside in FIG. 6. The upper portion of the retainer 52 includes a flat peripheral portion 59 which defines apertures such as the one designated 60 for routing wires to each of the connector assemblies in the contact holder 43 and permitting the contacts to extend to the printed circuit board, while holding the contact assemblies in their respective recesses 62. The contact holder 43

defines as many recesses 62 as are required for the number of contact assemblies.

Turning then to the contact assembly and its associated recess 62, each contact assembly includes a blade contact 28 (there are four in the embodiment of FIGS. 2-6) having a flat central engagement portion 64, an upwardly extending tab 65 (which may be offset laterally from the [central] flat central engagement portion 64 as seen in FIG. 1A), and two depending legs 66, 67. The legs 66, 67 include opposing contact areas [or pads] , or pads, 69, 70 adjacent the lower portion thereof and beneath an enlarged opening, or slot, 71. The contact [portions] areas 69, 70 are spaced to receive a blade of a mating connecting element, the mating blade fitting upwardly into the enlarged slot 71, and the legs 66, 67 providing a contact force on the pads 69, 70 for establishing the desired electrical connection and continuity.

The opening between the pads 69, 70, as well as the enlarged opening 71, are aligned with a slot [[74]] in the contact holder 43 to receive a contact element of the mating connector corresponding to one of the slot configurations 38-41 of FIG. 4 described above.

The upper portion of the recess 62 is enlarged to define a peripheral shoulder or ledge 76 (FIG. 6). A pair of outwardly extending tabs 77 on the contact 28 rest on the opposite lateral edges of the shoulder 76 when the contact 28 is placed in the recess 62. The contact retainer 52 secures the contact assemblies in place. The upper, enlarged section of the recess 62 is sized to receive the conductive band 27 while permitting the band to move or slide in the direction of the axis of the screw 29. The conductive band 27 is received over, and surrounds the central portion 64 of the contact 28. The conductive band 27 rests on the top of the tabs 77 of the contact 28 to secure the contact in place vertically, while permitting the band to slide laterally, as will be explained. The

In re appln. of Riccardo Comini
Serial No. 10/749,717

upper portions of the legs 66, 67 of the contact 28 are barbed as at 78, 79 to fix the contact element in the lower, narrower portion of the recess 62 which is designated 80 in FIG. 6. Thus, the contact is fixed to the contact holder, whereas the conductive band 27 may move in its recess parallel to the axis of the screw 29, and relative to its associated contact 28.

Turning now to FIG. 2, the conductive band 27, as previously indicated, is generally rectangular in form to be received in the upper, enlarged portion of the recess 62 and to be guided thereby so that it may move laterally relative to the [upper,] flat central engagement portion 64 of the contact 28. The conductive band 27 is thicker at one end 30, as described above, and has a tapped bore which threadedly receives the screw 29. The distal or driving end of the screw 29 is located adjacent the central, enlarged engagement portion 64 of the contact 28. A stop such as the one designated 82 in FIG. 2 (and similar to the previously described stop 25) is secured in the contact holder for each connector assembly and to limit the motion and prevent removal of the screw 29. The flat central engagement portion 64 forms an engagement surface for the end of the screw 29 when the screw 29 is threaded into the conductive band 27. As best seen in FIG. 2, the interior of the band 27 on the other side of the contact 28 defines an opening 85 for receiving the stripped end of one of the wires as described above (see FIG. 5). The tab 65 of the contact 28 extends above the [lid 59] flat peripheral portion 59 of the contact retainer 52 and through a conventional printed circuit board [[87]] (not shown for simplicity) which, if desired, rests on top of the contact retainer and beneath the top surface of the casing 42, as is known in the art.

A peripheral gasket 87 is received on the bottom of the contact holder 43. The bottom of the contact holder [18 insert] 43 includes a peripheral notch 88 which receives an inwardly

In re appln. of Riccardo Comini
Serial No. 10/749,717

extending tongue 90 of the peripheral gasket 87. The peripheral gasket 87 is secured to the contact holder 18 by the lower portion of the outer casing 42. The peripheral gasket 87 is adapted to rest on and seal against the casing of the solenoid to which the connector is secured by means of the screw 46 (FIG. 1) which extends through the pedestal 55 and into a corresponding internally threaded opening in the housing of the solenoid as is known in the art. A gasket retainer 92 has an upwardly extending portion 93 which is sized to be snugly received in the cavity 44 of the insert 43 to hold the gasket 87 in place during installation of the connector, as is known in the art.

Please replace the paragraph on page 12, beginning on line 17, and ending on page 13, line 2, with the following:

After all of the desired wires are connected to the contact holder and the associated connector assemblies, the contact holder 43, peripheral gasket 87 and gasket retainer 92 (if used) are assembled into the casing 42, the cable is then pulled outwardly of the cylindrical cable intake portion 47 of the casing 42; and the compression nut 49 is tightened into the connector housing to form a seal by means of the [grommet] annular flexible gasket 50 which expands between the interior wall of the opening 48 and the outer surface of the feed cable and forms a seal.